

ABSTRACT

A device and method for deploying a lead in tortuous pathways such as the left ventricle or the coronary sinus vasculature. A catheter having fiber optics is inserted into the vasculature of a patient with the aid of a guide wire or equivalent. The fiber optics transmits infrared light to an optical head at the distal end of the catheter. Light reflecting from the vasculature system is collected and transmitted through the optical fibers to an infrared camera for imaging. Alternatively, an active pixel sensor is positioned distally on the lead for collecting and transmitting the image to a display device located external to the patient. Proper selection of the wavelength of infrared illumination allows objects to be imaged through bodily opaque fluid. Another embodiment enables viewing of a cardiac lead for extraction by a laser. Yet another embodiment enables proper positioning of an ablation catheter before energization.